CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SITE CLEANUP ORDER NUMBER 92-107

SITE CLEANUP REQUIREMENTS FOR:

SANMINA CORPORATION, dba SANTA CLARA CIRCUITS AND
CHARLES AND CONNIE DIETRICH

FOR THE PROPERTY LOCATED AT:

1871-1881 MARTIN AVENUE
SANTA CLARA
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. **SITE DESCRIPTION** The Santa Clara Circuits facility was formerly located on a parcel at the intersection of Scott Boulevard and Martin Avenue west of San Jose airport in the City of Santa Clara, Santa Clara County. The Site is about 45 feet above sea level, on a gently north sloping alluvial plain in a post-agricultural industrial neighborhood (Location map, Figure 1).

2. **SITE HISTORY** The property and building were first owned by a joint investment known as the Martin Avenue Project with Quentin E. and James E. Norem and Charles Dietrich since April, 1965. Charles Dietrich purchased total interest in the property in June, 1976 with Connie Dietrich soon after added as an owner. Mr. Dietrich in conducting business continued to refer to the property as the Martin Avenue Project. A portion of the building was leased by Santa Clara Circuits (SCC) under Robert and Barbara Mack from May, 1973 to December, 1975. The lease was re-executed by Robert Mack and Jack Boesch for the entire building space from January, 1976, to February, 1981. Robert Mack and Jack Boesch again executed the lease in March, 1981. Robert Mack signed the lease on behalf of Printed Circuit Technology from March, 1981, to February, 1986, however a later lease by Mack and Boesch succeeded this lease with SCC and shows Printed Circuit Technology as a lessee from March, 1981 to April, 1981. SCC was in possession of the building from 1973 until early 1986 and Sanmina Corporation from early 1986 to October, 1986 when the building was totally destroyed by fire. SCC had full occupancy of the building from 1976 to the time of the fire. Other tenants that occupied a portion of the building were: Tempress Research, activities

unknown, 3/66-5/69; Memory Magnetics, activities unknown but operations never conducted, 6/69-1/70; ARA Services, a food service provider, 8/69-1/76; Industrial Modular Systems, warehousing, 3/70-7/71; Thermidix, Inc., a casting manufacturer and marketer, no operations conducted, 8/71-1/73.

SCC operated a printed circuit board manufacturing facility at the Martin Avenue property between 1973 and 1986, when a fire caused operations to cease. Metal plating solutions, caustics, acids and solvents were chemicals used onsite and were released from their containers during the fire. Site assessment work has been conducted sporadically since 1987, where soil pollution was identified at the site. This was beneath the former plating area, the former touch-up area, the former waste water treatment sump and a former underground vault.

3. **REGULATORY STATUS** The Site is owned by Charles and Connie Dietrich, hereinafter referred to as Owners and as dischargers because of their ownership of the property. The Site was occupied by Santa Clara Circuits from 1973 to 1986. The business and successor to SCC, Sanmina Corporation, is named as a discharger at this time because of their occupancy of the site from 1973 to October, 1986, throughout which releases of chemicals may have occurred.

PCE, TCE, TCA and methylene chloride were identified in the soil beneath the former plating room, and TCE, PCE and TCA were VOCs identified below an underground vault and in soil samples from beneath the former sump location. The same VOCs, except methylene chloride, were detected in two water samples taken from the sump and an underground vault during the time of the building demolition. These same VOCs are consistently detected in water samples from the two monitoring wells on the downgradient edge of the property, MW-2 and MW-3. Monitoring wells MW-1 and MW-4 consistently show that no VOCs are entering the site from an upgradient direction. The three main VOCs, PCE, TCE and TCA, have not been detected in MW-1 or MW-4 on the upgradient edge of the property - except one hit of TCA at 2 ppb - for nine consecutive quarters. An upgradient pollutant source has yet to be identified. Therefore, the chemicals found in the groundwater onsite is from onsite sources and may be due to the activities of Santa Clara Circuits.

Sanmina, and it's predecessor Santa Clara Circuits, have released contaminants to the soil and possibly the groundwater and are therefore named the primary discharger and, as such, is primarily responsible for the soil and groundwater investigations and cleanup.

As owners of the property, Charles and Connie Dietrich are named secondarily as dischargers, and as such, are secondarily responsible for the soil and groundwater investigation and cleanup only in the event that Sanmina Corporation fails to comply with this Order.

If additional information comes to light showing that any other parties, or those named in the site history section above, caused or permitted any waste to be discharged or deposited on the site where it entered or could have entered into the waters of the State, the Board will consider adding that discharger to the Order.

4. **HYDROGEOLOGY** The Site is underlain by alternating beds of silty and clayey gray to brown sands and gray to green clays varying in thickness from 2 to 10 feet. Four groundwater monitoring wells penetrate the A-zone between 25 and 35 feet below the surface. One onsite B-zone monitoring well is completed to a total depth of 54 feet below the surface. The groundwater elevation is approximately 30 feet above sea level, or, about 15 feet below the surface. Groundwater flow is north to northeasterly with groundwater monitoring ongoing since summer, 1990 (Figure 2).

5. **SOIL AND GROUNDWATER INVESTIGATIONS** Soil and groundwater investigations were conducted at the site beginning in October, 1987. The initial work was conducted during the building demolition and included the installation of 3 groundwater monitoring wells with concomitant subsurface sampling.

Soil Pollution: The highest soil VOC concentrations detected onsite were found in samples from beneath the former plating area. Several compounds were found including PCE at 150,000 ppb, toluene at 12,000 ppb and TCE at 910 ppb. The second highest soil VOC concentrations found onsite were from samples taken below the former sump location with PCE at 1,300 ppb, TCE at 580 ppb, toluene at 230 ppb and 1,1,1-TCA at 75 ppb. A grab sample of water taken from inside the sump during demolition work revealed that VOCs were present in the sump water. The VOCs found were TCE at 1,800 ppb, PCE at 170 ppb and 1,1,1-TCA at 150 ppb.

Groundwater Pollution: Groundwater monitoring wells MW-1, MW-2 and MW-3 were first installed in 1988 in the A-zone aquifer after the building was demolished in 1987. Wells MW-2 and MW-3 monitor the immediate area of the former building location (Figure 2). Two additional wells were later installed in 1990 to assess the groundwater conditions of the upgradient portion of the site (MW-4) and the water quality in the next lower aquifer (MW-5). VOCs are consistently detected in A-zone

wells MW-2 and MW-3, which are the two wells on the downgradient edge of the property. The highest VOC concentrations historically have been found in MW-2 with TCE between 190 and 530 ppb, 1,1,1-TCA from 10 to 50 ppb and PCE ranging form 46 to 290 ppb. Other VOCs detected in MW-2 include carbon tetrachloride, 1,1-DCE, 1,1-DCA, and 1,2-DCA. Upgradient well MW-1 shows consistently that no VOCs are present in groundwater coming onsite. VOCs are seldom found near the detection limits in the other upgradient monitoring well, MW-4.

6. **INTERIM REMEDIAL ACTIONS** Sanmina performed soil interim remedial actions from December, 1990 to January, 1991. Cleanup levels for source area soil metals and VOC pollution was reviewed by the Regional Board staff. The concentrations for pollutants remaining in soil were 30 ppm for copper, 11 ppm for lead, 45 ppm for nickel and 1 ppm for total VOCs. Concentrations established for soils metal pollution cleanup was based on relative background values determined from onsite soil borings and from other Santa Clara Valley toxic cleanup sites. A cleanup level of 1 ppm total VOCs in soil is consistent with other Board actions for VOC source area cleanups.

   Excavated polluted soil was removed in 1 foot lifts and placed on asphalt pads for onsite treatment. 104 confirmatory samples were taken from the base and sidewalls of excavated areas to insure that cleanup levels were attained. Metals polluted soil was treated to inhibit solubility and mobility by fixing the metals to the soil matrix. Soil polluted by VOCs was treated by aeration. Confirmatory samples were taken from the treated soil stockpiles to determine pollutant concentrations and to conduct leachability and metal solubilities tests. 515 cubic yards of treated and stabilized soil was disposed of offsite. These cleanup actions found acceptable: by Board staff letter of March 6, 1991 and City of Santa Clara letter of June 5, 1991 (Appendix C). To date, no remedial actions have been implemented for the groundwater pollution.

7. **SCOPE OF THIS ORDER** This order contains tasks for determining the nature and extent of groundwater pollution and for the proposal and implementation of final remedial actions. These tasks are necessary to remediate the contamination of the groundwater, alleviate the threat to the environment posed by groundwater pollution, the potential migration of the groundwater plume of pollutants, and to provide a substantive technical basis for designing and evaluating the effectiveness of final cleanup alternatives.

8. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives and beneficial uses for South San Francisco Bay and contiguous surface and groundwaters.

9. The existing and potential beneficial uses of the groundwater underlying and adjacent to the facility include:

   a. Industrial process water supply
   b. Industrial service water supply
   c. Municipal and Domestic water supply
   d. Agricultural water supply

10. The discharger has caused or permitted, and threatens to cause or permit waste to be discharged or deposited where it is or probably will be discharged to waters of the State and create or threaten to create a condition of pollution or nuisance.

11. This action is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.

12. The Board has notified the discharger and interested agencies and persons of its intent under California Water Code Section 13304 to prescribe Site Cleanup Requirements for the discharge of pollutants and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.

13. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the discharger, its agents, successors, and assigns, shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect the beneficial uses of the waters of the State is prohibited.

2. Further significant migration of pollutants through subsurface transport to waters of the State is prohibited.

3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of pollutants are prohibited.

B. **SPECIFICATIONS**

1. The storage, handling, treatment or disposal of soil or groundwater containing pollutants shall not create a nuisance as defined in Section 13050(m) of the California Water Code.

2. The discharger shall conduct site investigations and monitoring activities as needed to further define the current local hydrogeologic conditions, and the lateral and vertical extent of soil and groundwater pollution. Should monitoring results show evidence of pollutant migration, additional characterization of pollutant extent may be required.

3. The cleanup goal for source-area soil is 1 ppm for total VOCs. Alternate cleanup goals may be proposed based on site specific data. If higher levels of VOCs are proposed, the discharger must demonstrate that cleanup to 1 ppm total VOCs is infeasible, that the alternate levels will not threaten the quality of waters of the State, and that human health and the environment are protected. Additionally, if any chemicals regulated under this Order (or their degradation products) are left in the soil above proposed cleanup levels, a program of continued groundwater monitoring may be required. Final cleanup goals for source-area soils will be approved by the Executive Officer.

4. Final cleanup goals for polluted groundwater, onsite and offsite, shall be in accordance with State Water Resources Control Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California. Proposed final cleanup levels shall be based on a feasibility study of remedial alternatives that compare cost, effectiveness and time to achieve cleanup goals. Cleanup levels shall also have the goal of reducing the mobility, toxicity, and volume of pollutants. Final cleanup levels shall be approved by the Regional Board.

5. If groundwater treatment is necessary and extraction and treatment is considered as an alternative, the feasibility of water reuse, reinjection, and disposal to the sanitary sewer must be evaluated. Based on the Regional Board Resolution 88-160, the discharger shall optimize, with a goal of 100%, the reclamation or reuse of groundwater extracted as a result of cleanup activities. The discharger shall not be found in violation of this Order if documented factors beyond the discharger's control prevent the dischargers from attaining

this goal, provided the discharger has made a good faith effort to attain this goal. If reuse or reinjection is part of a proposed alternative, an application for Waste Discharge Requirements may be required. If discharge to waters of the State is part of a proposed alternative, an application for an NPDES permit must be completed and submitted, and must include the evaluation of the feasibility of water re-use, reinjection, and disposal to the sanitary sewer.

C. **PROVISIONS**

1. The discharger shall comply with the Prohibitions and Specifications above, in accordance with the following time schedule and tasks:

2. If Sanmina Corporation fails to comply with any of the provisions of this Order, within sixty (60) days of the Executive Officer's determination and actual notice, the Owners shall comply with the provisions of this Order.

TASKS AND COMPLETION DATES

a. TASK: CONTINUATION OF THE QUARTERLY GROUNDWATER SAMPLING AND ANALYSIS

The discharger shall continue to submit to the Executive Officer quarterly groundwater sampling and analysis reports. Monitoring and reporting requirements for new wells and all existing wells shall conform to Provision 4.a.(1)-(10).

COMPLETION DATE: Ongoing

b. TASK: CHEMICAL USE AND SITE USE HISTORY

The discharger shall submit a technical report acceptable to the Executive Officer that contains a chemical use and site use history. The report shall include, but need not be limited to: 1) ownership status and lease arrangements, 2) descriptions of original site construction, facility repairs and building modifications to meet tenant needs, 3) products manufactured onsite, 4) manufacturing processes, material delivery locations and storage areas, 5) a complete list of chemicals and metals used including annual quantities of each, 6) chemical handling practices including periodicity and locations of deliveries, onsite handling practices and

site-use delivery paths, 7) disposal, treatment, transfer and storage of waste solvents, acids, bases, metals and plating solutions and names of chemical waste disposal companies, 8) accident history including facility damages, spills and human injuries and, 10) a detailed description of water use as an element of industrial processes including influent and effluent paths, chemical dilution procedures and locations and onsite water treatment and disposal facilities.

COMPLETION DATE: October 30, 1992

c. TASK: WORKPLAN FOR THE INVESTIGATION OF ONSITE AND OFFSITE POLLUTION

Submit a report acceptable to the Executive Officer, for an investigation of site hydrogeologic conditions and the nature and extent groundwater pollution. The report shall include, but need not be limited to, the following information: locations and construction methods for additional groundwater monitoring wells; determination of potential pollution of any lower aquifers beneath the site; locations and proposed depths of additional soil borings; sampling procedures and analytical methods to be used for soil and groundwater samples; establish background values for priority metals and VOCs found in the soil and groundwater; an updated map showing groundwater flow directions and elevations; proposed investigations for potential offsite sources; a summary plan of methods for the collection, storage and disposal of soil cuttings and well development water.

COMPLETION DATE: October 30, 1992

d. TASK: REMEDIAL INVESTIGATION REPORT FOR THE ONSITE AND OFFSITE POLLUTION INVESTIGATION

Submit a report acceptable to the Executive Officer that describes the results of the investigation from Provision C.1.c. The report shall include, but not limited to, the following information: new and existing soil borings and groundwater monitoring well installation logs; copies of well installation permits; tabulated results of soil and groundwater pollutant analyses; appropriately scaled maps indicating locations of all structures; soil boring

and groundwater monitoring well locations; site-specific geologic cross sections; vertical and lateral extent of soil and groundwater pollution; survey of private and public water-supply wells within a half-mile radius and an evaluation of their potential as conduits for vertical migration of pollutants; description of site hydrogeologic conditions; evaluation of the extent to which soil pollution may be contributing to groundwater pollution; and, recommendations for further investigations if deemed necessary.

COMPLETION DATE: February 28, 1993

e. TASK: PROPOSALS FOR GROUNDWATER REMEDIATION

Submit a technical report acceptable to the Executive Officer which contains a plan for proposed remedial actions and implementation schedule. This report shall identify pollution sources and evaluate the need and alternatives for the cleanup of polluted soils, control or containment of a migrating groundwater pollution plume, or, conducting pilot or treatability studies for proposed remedial actions. The proposed remedial alternatives shall reduce the volume, mobility and toxicity of pollutants. Cleanup goals shall be based on site-specific conditions and consider a risk-based approach for all pollutants that may remain in the soil or groundwater. The report shall include a schedule for the tasks and time schedule for implementation of the recommended remedial actions.

COMPLETION DATE: April 30, 1993

f. TASK: REPORT OF THE COMPLETION AND IMPLEMENTATION OF REMEDIAL ACTIONS

Submit a technical report acceptable to the Executive Officer documenting implementation of final remedial measures. The report shall include: 1) selected cleanup method(s), 2) date, location and type of equipment installed, and, 3) start up date.

COMPLETION DATE: 60 days after implementation of the actions as proposed and accepted by the Executive Officer in accordance with Task C.1.e. above.

g. **TASK: SUBMIT FIVE YEAR STATUS REPORT**

Submit a technical report acceptable to the Executive Officer containing the following:

1. The results of any additional investigative work completed,
2. an evaluation of the effectiveness of installed final cleanup measures,
3. additional measures to achieve final cleanup objectives and goals, if necessary,
4. a comparison of previously estimated costs with actual costs incurred and a revised projection of necessary to achieve final cleanup goals and objectives,
5. the tasks and time schedule necessary to implement any additional final cleanup measures,
6. recommended measures for reducing Board oversight activities,
7. describe the reuse of extracted groundwater, if any,
8. evaluate and document the removal and/or cleanup of polluted soils, and groundwater.

If final cleanup objectives have not been achieved through the implementation of the approved groundwater and soil remediation plans, this report shall also contain an evaluation addressing whether it is technically feasible to achieve these objectives by other means. If so, this report shall contain a proposal for procedures to do so. If not, this report shall contain proposed alternative cleanup objectives and rationale.

COMPLETION DATE: August 15, 1997

2. Pursuant to Section 13304 of the Water Code, the discharger is hereby notified that the Regional Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Regional Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. Upon receipt of a billing statement for such costs, the discharger shall reimburse the Regional Board.

3. The submittal of technical reports evaluating interim or final remedial measures will include a projection of the cost, effectiveness, benefits, and impact on public health, welfare, and environment of each alternative measure. The remedial investigation and feasibility study

shall consider the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300); Section 25356.1 (c) of the California Health and Safety Code; CERCLA guidance documents with reference to Remedial Investigation, Feasibility Studies, and Removal Actions; and the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California".

4. If the discharger is delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the dischargers shall promptly notify the Executive Officer.

5. The discharger shall submit to the Regional Board acceptable reports on compliance with the requirements of this Order, and acceptable activity monitoring reports that contain descriptions and results of work performed. These reports are to be submitted according to a program and schedule prescribed by the Regional Board and outlined below.

QUARTER	TIME PERIOD	DUE DATE
1st quarter	January - March	April 30
2nd quarter	April - June	July 30
3rd quarter	July - September	October 30
4th quarter	October - December	January 30

a. **ON A QUARTERLY BASIS**, technical reports on soil and groundwater monitoring shall be submitted to the Board, commencing on October 30, 1992, and covering the previous three months. The quarterly reports shall include, but need not be limited to, the following information:

1) Summary of work completed since submittal of the previous report, and work projected to be completed by the time of the next report.

2) Identification of any obstacles which may threaten compliance with the schedule of this Order and what actions are being taken to overcome these obstacles.

3) Written notification which clarifies the reasons for non-compliance with any requirement of this Order, and which proposes specific measures and a schedule to

achieve compliance. This written notification shall identify work not completed that was projected for completion, and shall identify the impact of non-compliance on achieving compliance with the remaining requirements of this Order.

4) The plan shall use EPA 8240 open scan and EPA tests for priority pollutant metals initially for all new wells, once for all existing wells, and once annually thereafter for all wells. Thereafter on a quarterly basis, other EPA 8000 series tests may be used, as appropriate, based upon the compounds detected. The discharger may request in writing to modify the sampling frequency and/or analytical procedures at a later date.

5) Tabulated results of quarterly water quality sampling analyses for all wells using analytical methods specified in Provision 4.a.(4), with updated groundwater pollution plume maps based on these results.

6) Quarterly updated water table and piezometric surface maps, based on the most recent water level measurements for all affected water bearing zones for all onsite and offsite wells. The first set of data shall be reported in the quarterly report due on October 30, 1992.

7) A cumulative tabulation of volume of extracted groundwater, quarterly analysis results for all groundwater extraction wells, and pounds of chemicals removed.

8) A cumulative tabulation of all well construction details, and quarterly water level measurements.

9) Reference diagrams including geologic cross-sections describing the hydrogeological setting of the Site, and appropriately scaled and detailed base maps showing the location of all monitoring wells and extraction wells, and identifying adjacent facilities and structures.

10) Identification and notification of non-compliance with groundwater monitoring requirements of this Order, as described in Provisions 4.a.2. and 4.a.3.

b. **ON AN ANNUAL BASIS**, technical reports on the progress of compliance with all requirements of this Order shall be submitted to the Board, commencing on January 15, 1993, and covering the previous year. Annual reports may include quarterly reports due concurrently. The progress reports shall include, but need not be limited to, progress on the site investigation and remedial actions,

operation of interim and final remedial actions and /or systems, and the feasibility of meeting groundwater and soil cleanup goals.

6. All hydrogeological plans, specifications, reports, and documents shall be signed by or stamped with the seal of a registered geologist or professional engineer, or a certified engineering geologist .

7. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain Quality Assurance/Quality Control records for Board review.

8. The discharger shall maintain in good working order, and operate, as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.

9. a. Copies of all correspondence, reports, and documents pertaining to compliance with the requirements of this Order shall be provided to the following agencies:

   1) Regional Water Quality Control Board (1 copy, Steve Ritchie)
   2) Santa Clara Valley Water District (1 copy, Tom Iwamura)

   b. The discharger shall provide copies of cover letters, title page, table of contents and summaries of above compliance reports - except for the annual progress reports, proposed final cleanup objectives and actions and the report on the implemented remedial alternatives which shall be submitted in full - to the following agencies:

   3) Santa Clara County Health Department (Lee Esquibel)
   4) City of Santa Clara Fire Department (Larry Monette)
   5) California EPA/DTSC Site Mitigation Branch (Howard Hatayama)

10. The discharger shall permit the Board or its authorized representative, in accordance with Section 13267(c) of the California Water Code:

    a. Entry upon premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept, which are relevant to this Order.

b. Access to copy any records required to be kept under the terms and conditions of this Order.

c. Inspection of any monitoring equipment or methodology implemented in response to this Order.

d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.

11. The discharger shall file a report on any changes in Site occupancy and ownership associated with the facility described in this Order.

12. If any hazardous substance is discharged in or on any waters of the state, or discharged and deposited where it is, or probably will be discharged in or on any waters of the state, the discharger shall report such discharge to this Regional Board, at (415) 464-1255 on weekdays during office hours from 8 a.m. to 5 p.m., and to the Office of Emergency Services at (800) 852-7550 during non-business hours. A written report shall be filed with the Regional Board within five (5) working days and shall contain information relative to: the nature of waste or pollutant, quantity involved, duration of incident, cause of spill, Spill Prevention, Control, and Countermeasure Plan (SPCC) in effect, if any, estimated size of affected area, nature of effect, corrective measures that have been taken or planned, and a schedule of these activities, and persons/agencies notified.

13. The Board will review this Order periodically and may revise the requirements when necessary.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on August 19, 1992.

Steven R. Ritchie
Executive Officer